

Claims

- [c1] Having described the invention, what is claimed is as follows:
1. An computerized asset inventory and tracking system comprising
- a central computer with memory,
 - a plurality of remote computer workstations in electronic communication with the central computer, at least one workstation located at each of a plurality of parts inventory stations, including shipping and receiving stations,
 - a plurality of database tables accessible in common by one or more of said workstations, said tables including
 - a table of parts inventory in which an inventory of parts is recorded and
 - a tracking table in which a shipment of parts between parts inventory stations is recorded through said workstations by recording arrival at and departure from said shipment from respective workstations, whereby said shipment of parts is tracked from one inventory station to another inventory station, including temporary shipment stops at workstations intermediate a workstation at an origination parts inventory station and a workstation at a destination parts inventory station,
 - a plurality of software modules selectively residing in the workstations and operating on the tables whereby said tables are maintained and queried in locating and tracking parts.
- [c2] 2. The system of claim 1 further comprising
- a database container parts table wherein contents of a shipping container in which parts may be shipped are recorded.
- [c3] 3. The system of claim 1 wherein one or more of the database tables reside in the memory of the central computer.
- [c4] 4. The system of claim 1 wherein said workstations include
- a system administrator workstation,
 - a normal, or general, workstation,
 - a transportation workstation,
 - an order workstation,
 - a sales workstation,
 - a shipping and receiving workstation,
- wherein said workstations access selected modules according to Figure 20.

- [c5] 5.The system of claim 1 wherein said workstations include
a banking workstation,
a supplier workstation,
wherein said workstations access selected modules according to Figure 20.
- [c6] 6.The system of claim 4 further comprising an software inventory module programmed to
record inventory at a workstation address by maintaining an inventory record in an
inventory table, said inventory record including inventory part number, quantity, and unit
price.
- [c7] 7.The system of claim 6 further comprising a request table and inventory transfer
instructions in the inventory module to check for inventory transfer requests in the
request table, which table residing on the central computer records transfer requests
from other workstations, wherein upon acceptance of a transfer request initiates an
inventory transfer.
- [c8] 8.The system of claim 2 including a shipping module and wherein each container is
issued a tracking identification code (tracking ID) by the shipping module which tracking
ID serves as an identifying code in the several tables to locate and track various parts and
shipment containers.
- [c9] 9.The system of claim 8 further comprising
a tracking software module that tracks shipment of containers and parts, said tracking
module maintaining said tracking table,
a container parts table and
an intermediate locations table,
said tracking module generating a new tracking ID for a new shipment of a container with
parts therein, the tracking ID including a container number, a parts list, and an address of
a destination workstation.
- [c10] 10.The system of claim 9 wherein said module is further programmed to maintain an
intermediate locations table linked to said tracking ID, a new table entry being recorded
in the intermediate locations table for each intermediate workstation location through
which said container passes.
- [c11] 11.The system of claim 1 comprising a first asset inventory and tracking system in

combination with a similar second asset inventory and tracking system in mutual electronic communication.

[c12] 12.The combination of claim 11 wherein the two systems are in communication via the Internet.

[c13] 13.The combination of claim 11 wherein a subset of said tables of said first system is accessible to said second system and a subset of said tables of said second system is accessible to said first system, and wherein tables of said second system record data pertaining to parts transferable upon request for recording by said first system and wherein said second system monitors parts recorded in tables of said first system and initiates an order for replenishment of parts recorded in said first system upon determining satisfaction of a specified order criteria, said initiated order communicated to and recorded in tables of said first system whereupon software modules of said first system query said tables and recognize said order, and wherein upon approval of said order, said first system communicates said approval to a table of said second system, whereupon functions of said second system queries its tables and upon recognizing said approval it its tables, initiates a directive for a physical transfer of said parts from a location recorded by the second system to a location recorded by the first system where upon receipt of said parts, records said parts in tables of said first system.

[c14] 14.The combination of claim13 where, upon receipt of physical transfer of parts, said receipt is recorded in tables of said first system as located at a receiving workstation.

[c15] 15.The combination of claim 13 where, upon physical transfer of said parts to a further location, a workstation at that location records receipt of said parts in a tracking table, added in the table to recordings of prior locations therein establishing a history of prior locations receiving said parts.

[c16] 16.The combination of claim 11 wherein upon said physical transfer being initiated, said second system generates an invoice for communication to said first system concomitant with said transfer.

[c17] 17.The combination of claim 11 further comprising an invoice software module programmed to generate an invoice from data recorded in an invoice table residing on

the central computer.

- [c18] 18.The combination of claim 17 where, upon receipt of said invoice by said first system, payment is generated by accessing a banking table, therein causing automatic payment of the invoice by bank to bank transfer.
- [c19] 19.The combination of claim 11 further comprising a sales software module programmed to check for available inventory, record a parts sale (transfer), and generate an invoice using information recorded in tables residing in the central computer.
- [c20] 20.The combination of claim 11 further comprising a contracts software module programmed to compare a purchase order with a purchase contract and edit required changes, recording edits in various tables residing at the central computer.
- [c21] 21.The combination of claim 11 further comprising an order software module programmed to generate or edit orders for transfer of parts, recording order data in a table residing in the central computer accessible to other software modules.
- [c22] 22.The combination of claim 11 wherein an order for transfer of parts is generated by said first system and recorded in an order table, where after said order table is made available to said second system, and wherein said first system accesses tables of said second system and causes said second system to recognize the new order recorded in its sales table, which causes said second system to initiate transfer of requested parts.
- [c23] 23.The combination of claim 11 further comprising a shipping software module programmed to generate a shipping label including a tracking ID provided by a destination second system and to generate an invoice, the shipping module accessing tables located in the central computer containing required information, including a sales table that records sales made to a given customer, a purchase order number, a part number, parts quantity; a tracking table indexed by said tracking ID that records a container number, a origination workstation address, a destination workstation address, and date; a reusable container table that records locations of reusable containers, a customer contracts table that records customer contract terms; and an outgoing invoice table that records billing terms.
- [c24] 24.The combination of claim 11 further comprising a receiving software module in a

receiving workstation programmed to record parts transferred to said first system from said second system, indexed by a tracking identification number (tracking ID) in a ** table, and further comprising a tracking software module programmed to track internal movement of containers and parts, said tracking module maintaining a tracking table, a container parts table and an intermediate locations table, said tracking module generating a new tracking ID for a new shipment of a container with parts therein, the tracking ID including a container number, a parts list, and an address of a destination workstation, said receiving module initiating said tracking module which directs and tracks transfer from said receiving workstation to a destination workstation requesting said parts.

[c25] 25.The combination of claim 11 wherein selected portions of tables residing in the central computer are copied to tables accessible through the Internet with the remaining tables are protected from access outside of a system.

[c26] 26.An asset inventory and tracking system comprising a plurality of shared tables residing on a central computer and a plurality of software modules residing on a plurality of computer workstations in electronic communication with the central computer mutually accessing and operating on said tables, said tables comprising an address table including names and physical locations of workstations, a tracking table including data included on a tracking tag, comprising an indexing tracking identification number, a container number, a workstation origination address, and a workstation destination address, an inventory table including inventory data for inventory stored at respective workstations, a container parts table including part numbers in a container identified in said tracking table,

27.The system of claim 26 wherein said tables further comprise an order table including orders placed by an entity storing said inventory and orders placed by an entity supplying parts to maintain said inventory, a sales table including data of sales made to customers, a customer contracts table including data of purchases of parts from said inventory, an invoice table including data for billing a sale or order,

28.The system of claim 26 wherein said tables further comprise

a supplier inventory table including data of parts for which a supplier is responsible in maintaining said inventory,

a response table residing on an external server, or central computer, adapted to facilitate transfer of data between a parts supplier and a manufacturer receiving said parts into said inventory,

29.The system of claim 26 wherein said software modules comprise
a tracking module means comprising computer instructions for tracking movement of containers and parts, recording tracking data in tracking, container, and intermediate locations tables,

an inventory module means comprising computer instructions for monitoring parts inventory at a workstation, recording data in inventory tables,

a shipping module means comprising computer instructions for automatically initiating shipment of parts in response to an order, accessing required information in sales, tracking, customer contracts and invoice tables,

a container module means comprising computer instructions for tracking locations of containers, recording data in said container parts table.

30.The system of claim 26 wherein said software modules comprise

an order module means comprising computer instructions for automatically generating orders created from inventory shortages automatically detected in inventory tables,

a sales module means comprising computer instructions for managing supplier sales data using data recorded in various tables by contracts, invoice and inventory modules,

a contracts module means comprising computer instructions for managing parts, prices, schedules consistent with data entered in tables by order and invoice modules.

31.The system of claim 26 wherein said software modules comprise

a supplier module means comprising computer instructions for linking a first computerized inventory system of a supplier and a computerized inventory system of a customer, including

a first, or supplier, plurality of shared inventory and tracking tables and a first, or supplier, plurality of inventory and tracking software modules mutually accessing and operating on said first tables,

a second, or customer, plurality of shared inventory and tracking tables and a second, or customer, plurality of inventory and tracking software modules mutually accessing and

operating on said second tables,
an interface module providing a communication interface between said customer tables and software modules and said supplier tables and modules wherein said interface module regularly queries said customer tables and said supplier tables.

[c29]

32. An asset inventory and tracking system comprising a plurality of shared tables residing on a central computer and a plurality of software modules residing on a plurality of computer workstations in electronic communication with the central computer mutually accessing and operating on said tables, wherein said tables comprise an address table including names and physical locations of workstations, a tracking table including data included on a tracking tag, comprising an indexing tracking identification number, a container number, a workstation origination address, and a workstation destination address, an inventory table including inventory data for inventory stored at respective workstations, a container parts table including part numbers in a container identified in said tracking table, an order table including orders placed by an entity storing said inventory and orders placed by an entity supplying parts to maintain said inventory, a sales table including data of sales made to customers, a customer contracts table including data of purchases of parts from said inventory, an invoice table including data for billing a sale or order, a supplier inventory table including data of parts for which a supplier is responsible in maintaining said inventory, a response table residing on an external server, or central computer, adapted to facilitate transfer of data between a parts supplier and a manufacturer receiving said parts into said inventory, and wherein said modules comprise a tracking module means comprising computer instructions for tracking movement of containers and parts, recording tracking data in tracking, container, and intermediate locations tables, an inventory module means comprising computer instructions for monitoring parts inventory at a workstation, recording data in inventory tables,

a shipping module means comprising computer instructions for automatically initiating shipment of parts in response to an order, accessing required information in sales, tracking, customer contracts and invoice tables,

a container module means comprising computer instructions for tracking locations of containers, recording data in said container parts table.

[c30] an order module means comprising computer instructions for automatically generating orders created from inventory shortages automatically detected in inventory tables, a sales module means comprising computer instructions for managing supplier sales data using data recorded in various tables by contracts, invoice and inventory modules, a contracts module means comprising computer instructions for managing parts, prices, schedules consistent with data entered in tables by order and invoice modules.

[c31] a supplier module means comprising computer instructions for linking a first computerized inventory system of a supplier and a computerized inventory system of a customer, including
a first, or supplier, plurality of shared inventory and tracking tables and a first, or supplier, plurality of inventory and tracking software modules mutually accessing and operating on said first tables,
a second, or customer, plurality of shared inventory and tracking tables and a second, or customer, plurality of inventory and tracking software modules mutually accessing and operating on said second tables,
an interface module providing a communication interface between said customer tables and software modules and said supplier tables and modules wherein said interface module regularly queries said customer tables and said supplier tables.

[c32] wherein said modules access selected tables according to Figure 20.

[c33] an asset inventory and tracking system linking a first computerized inventory system of a supplier and a computerized inventory system of a customer, comprising
a first, or supplier, plurality of shared inventory and tracking tables and a first, or supplier, plurality of inventory and tracking software modules mutually accessing and operating on said first tables,
a second, or customer, plurality of shared inventory and tracking tables and a second, or customer, plurality of inventory and tracking software modules mutually accessing and

operating on said second tables,
an interface module providing a communication interface between said customer tables and software modules and said supplier tables and modules wherein said interface module regularly queries said customer tables and said supplier tables.

[c34] 33.The system of claim 32 wherein said interface module checks the customer's inventory recorded in its customer tables whereupon discovering a need for additional inventory according to a predetermined criteria, automatically initiates a parts order to replenish the customer's inventory of that part, recording the order in the a customer's order table and sales table, whereupon receiving approval communication from the customer in a customer response table along with an order-indexing tracking identification number (tracking ID), the interface module initiates a parts shipment to the customer including the customer-assigned tracking ID along with an invoice automatically generated by the supplier according to predetermined terms recorded in a supplier contract table, which order is received by the customer, recording the arrival in a tracking table indexed by the tracking ID and routing the order to a customer destination location where inventory is automatically credited in said customer inventory table.

[c35] 34.The system of claim 32 wherein said communication interface employs the Internet.

[c36] 35.An asset inventory and tracking method having a central computer with memory, a plurality of remote computer workstations in electronic communication with the central computer, a plurality of database tables accessible in common by one or more of said workstations, said tables including a table of parts inventory, and a tracking table, comprising the steps of
recording inventory of parts in a database parts inventory table accessible from a portion of said computer workstations,
recording shipment of parts from an origination workstation to a destination workstation in said tracking table,
debiting said parts from inventory of said origination workstation, recorded in said table of parts inventory,
crediting said parts to inventory of said destination workstation,
recording arrival and departure of said shipment of parts at all intermediate workstations through which said shipment passes, if any, in a database intermediate locations table

therein tracking shipment of said parts between said origination workstation and said destination workstation by querying said intermediate locations database table.

[c37] 36.The method of claim 35 further employing a shipping container to transport said parts further comprising the step of recording inventory of parts being shipped in a container parts database table, said table accessible by a plurality of computer workstations to locate and track said parts.

[c38] 37.The method of claim 35 further comprising the following steps:
transferring a portion of the parts inventory table to a supplier table accessible by a parts supplier monitoring parts inventory levels through an electronic interface module, said parts supplier being delegated responsibility for maintaining desired parts inventory to said parts supplier,
maintaining desired parts inventory levels by receiving communication through a supplier interface,
interrogating said supplier interface for supplier communication,
recording in an order table a supplier order initiated by said parts supplier upon supplier analysis of said supplier table in accordance with predetermined criteria to maintain levels of parts inventory for which the supplier is responsible,
recording approval of said supplier order in said order table,
returning said supplier order to said supplier by means of supplier interface,
receiving parts in accordance with said supplier order into inventory, therein reestablishing parts inventory to said desired parts inventory level.

[c39] 38.The method of claim 37 further comprising the following steps:
generating a tracking identification number to be employed in shipping and tracking delivery of said parts to an inventory destination.

[c40] returning said tracking number along with said supplier order
receiving said parts along with said tracking identification number.

[c41] 39.The method of claim 37 further comprising the following steps:
receiving a invoice from said supplier along with said parts,
paying said invoice by initiating a bank transfer of funds.

[c42] 40.An asset inventory and tracking software system adapted for programming and

implementation on a central computer with memory and a plurality of remote computer workstations in electronic communication with the central computer, at least one workstation located at each of a plurality of parts inventory stations, including shipping and receiving stations, comprising

a plurality of database tables accessible in common by one or more of said workstations, said tables including

a table of parts inventory in which an inventory of parts is recorded and

a tracking table in which a shipment of parts between parts inventory stations is recorded through said workstations by recording arrival at and departure from said shipment from respective workstations, whereby said shipment of parts is tracked from one inventory station to another inventory station, including temporary shipment stops at workstations intermediate a workstation at an origination parts inventory station and a workstation at a destination parts inventory station,

a plurality of software modules selectively residing in the workstations and operating on the tables whereby said tables are maintained and queried in locating and tracking parts including a tracking module that tracks shipment of parts and containers in which parts may be shipped, said tracking module maintaining said tracking table.

[c43]

41. The software system of claim 40 further comprising

a request table and

an inventory module including inventory transfer instructions to check for inventory transfer requests in the request table, which request table records transfer requests, wherein upon acceptance of a transfer request initiates an inventory transfer.

[c44]

42. The software system of claim 40 further comprising

a shipping module that issues a tracking identification code (tracking ID) which tracking ID serves as an identifying code in the several tables to locate and track various parts and shipment containers.

[c45]

43. The system of claim 42 further comprising

a container parts table and

an intermediate locations table in which is recorded arrival at and departure from a workstation of a shipment container, including intermediate workstation locations through which said container passes.